

Description

[Automatic water shut off valve]

BACKGROUND OF INVENTION

[0001] Wherever water is held under pressure, there is the prospect of a leak or rupture of a water line. While leaks and ruptures are not frequent occurrences, if there is no one present to stop the water flow then this may result in severe water damage. The subject of the invention addresses this problem.

SUMMARY OF INVENTION

[0002] According to the present invention, there is provided a system for shutting off fluid flow by a shut-off valve for interposition in the fluid line, a valve circuit box for said valve, said circuit box is activated by switch such as light switch or by alarm system auxiliary outputs or by wireless alarm system using RF module to control said circuit box, which will activate said valve to shut off said fluid flow.

BRIEF DESCRIPTION OF DRAWINGS

[0003] In the figure which illustrates example embodiment of the

invention:Figure 1 is a schematic representation of a system made in accordance with the invention

DETAILED DESCRIPTION

[0004] With reference to figure 1 in overview system for shutting off water when away from home comprises a shut-off valve (11) interposed in a water line illustrated in phantom (10). A controller for the valve is indicated at (18). The valve controller (16) is coupled a power connector (5) through an alarm system or RF module (1) or by manual switch (6) Valve (11) is a normally open solenoid valve. The valve comprises a valve body (19) connected to a solenoid core (7) which is surrounded by a solenoid coil (8). Solenoid core (7) and therefore the valve body (19) is biased by spring (9) to a valve open position, as illustrated in figure. the valve controller (18) comprises a magnetic coil (2) biased by spring (4) to a first position where at the blade (3) of the relay contacts contact (20) as illustrated in figure 1. The connector (21) comprises a pair of connectors for connecting with alternating current source of power such as household supply .

[0005] When person leaves home they will arm their alarm system, or turn on manual water shut off switch. When the alarm is armed it will send out a constant DC voltage to

line (17) energizing coil (2) forcing blade (3) to connect with contact (20) this will connect power line (21) with line (23) this will send power to coil (8) solenoid valve will compress spring (9) shutting off water in line (10). When alarm system is turned off power is cut to coil (2) breaking the circuit from power supply (5) and solenoid coil (8), the normally open solenoid valve spring (9) will then uncompress allowing water to flow. If manually activated by switch power line (21) will be connected directly to solenoid coil (8) through switch (6) once again closing the normally open valve (11) when deactivated by switch (6) the circuit will be broken allowing the normally open valve to open.

[0006] Optional water sprinkler circuit breaker, as show in figure 1, if occupants have armed the water protection system water is shut off. In the event that water sprinkler must be activated, this feature will make it possible. Water sprinkler (16) will send power to coils (14) moving blade (12) opening connection (22) which will open the closed circuit to solenoid valve coil (8) the solenoid valve will open allowing water to flow.

[0007] If power is lost at anytime for reason such as storm, power outage, the water will remain on. This will ensure

that in such an event, the occupants will still have running water.